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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,983	02/27/2004	Thomas L. Lipke	89190.029904/DP-311742	6853

7590

12/23/2004

Jimmy L. Funke, Esq.
Delphi Technologies, Inc.
Mail Code 480410202
P.O. Box 5052
Troy, MI 48007

EXAMINER

ESHETE, ZELALEM

ART UNIT PAPER NUMBER

3748

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,983

Applicant(s)

LIPKE ET AL.

Examiner

Zelalem Eshete

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6 and 9-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the amendment filed on 11/18/2004.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3,6,9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichinose (JP2001-41012) in view of Strauss (6,516,763).

Regarding claims 1,6,9,11,12: Ichinose discloses a locking pin mechanism (for an internal combustion engine) for variably locking together a rotor and a stator in a vane-type camshaft phaser having a rear cover plate and a front cover plate secured to the stator and enclosing the rotor within the stator (see figures 2,3), the phaser including means for supplying phase-advance oil and phase-retard oil to respective advance and retard chambers formed between the rotor and stator (see figure 6), the locking pin mechanism comprising: a) a locking pin disposed in an axial bore in said rotor (see figure 4); b) a well formed in rear cover plate for receiving a portion of said locking pin in locking mode (see numeral 231); c) means for directing said phase-advance oil to said

pin for urging said pin from said well and d) means for directing said phase-retard oil to said pin for urging said pin from said well (see figure 6). Ichinose further discloses means for directing said phase-advance oil includes a first channel connecting said well to a supply of said phase-advance oil (see figure 6) and means for directing said phase-retard oil includes a second channel connecting said well to a supply of said phase-retard oil (see figure 6); the first channel is formed in one of said rear cover plate and said rotor and well is formed in said front cover plate and said second channel is formed in one of said rear cover plate and said rotor (see figure 6).

Ichinose fails to disclose using the front cover for well/channel formation wherein the well in the front cover plate is for receiving a portion of said locking pin in locking mode.

However, Strauss teaches a well formed in front cover plate for receiving a portion of said locking pin in locking mode (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ichinose's device by reversing the well from the rear cover to that of the front cover as taught by Strauss and accordingly implementing the channels of the rear cover to that of the front cover in order to apply the system to various engines that employ various valve timing mechanisms.

Regarding claim 2: Ichinose discloses a return spring disposed in said bore for urging said pin into said well (see figure 6).

Regarding claim 3: Strauss discloses a spring guide disposed in said bore (see figure 1).

Regarding claim 10: Ichinose as modified above discloses the claimed invention as recited above, except for the cross-sectional area dimensional values (i.e., the second channel smaller than the first channel) it is the examiner's position that assigning different dimensions for the two channels (including one smaller than the other) would have been an obvious matter of design choice well within the level of ordinary skill in the art depending upon the phaser requirements for a given engine. Moreover, there is nothing in the record which establishes that the claimed dimensional constraint present a novel or unexpected result (*see In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Regarding claim 16: Ichinose modified as above discloses the claimed limitations as recited above; and Strauss further discloses a shoulderless locking pin (see figure 1).

Regarding claims 13,14,15,17: Strauss discloses said locking pin is a straight-sided pin (see figure 1).

Regarding claim 18: Ichinose discloses said locking pin has an end surface, and wherein said phase-advance oil and said phase-retard oil is directed to said end surface (see figure 6).

3. Claim 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichinose (JP2001-41012) in view of Strauss (6,516,763).

Regarding claim 16: Ichinose discloses the claimed limitations as recited above; except for a shoulderless locking pin.

Strauss teaches a shoulderless locking pin (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ichinose's locking pin by providing a shoulderless locking pin as taught by Strauss as an alternative locking device.

Regarding claim 17: Strauss discloses said locking pin is a straight-sided pin (see figure 1).

Regarding claim 18: Ichinose discloses said locking pin has an end surface, and wherein said phase-advance oil and said phase-retard oil is directed to said end surface (see figure 6).

Response to Arguments

4. Applicant's arguments with respect to claims 1-3,6,9-18 have been considered but are moot in view of the new ground(s) of rejection.

5. With regard to applicant's argument on page 10: Ichinose discloses the channel is formed in one of the cover plate and the rotor, in that, Ichinose discloses the channel is formed in the cover plate and the rotor (see figure 6).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (703) 306-4239. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zelalem Eshete
Examiner
Art Unit 3748

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THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700